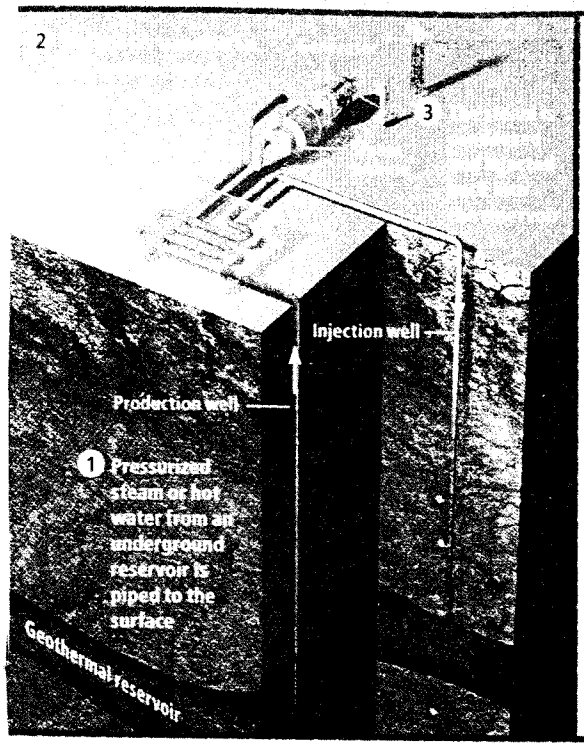
Geothermal



Unlike wind or solar, geothermal works on demand. "The heat in the earth is there; you can bank on it," says Steven Chu, director of Lawrence Berkeley National Laboratory and President Barack Obama's nominee for energy secretary. The plants generally run around the clock. Not every location has hot rock, but Hawaii generates a quarter of its energy that way and California, 6 percent. Geothermal installations use hot water that flows up by itself, but vast areas of the U.S. have "hot dry rock," proponents say, requiring only water injection through a deep well. Most systems use a heat exchanger to boil clean water for steam to spin a turbine.

STATUS	Commercial but small
PRICE	6.2–7.6 cents/kWh
ADVANTAGES	Supply is reliable enough to be used for base-load power
DRAWBACKS	The steam from underground water can have nasty components, which will rot heat exchangers and, if released, pollute the air; location is at the whim of nature and often not convenient to existing power lines

5. Playing a supporting role. In the binary-cycle process, geothermal water is used only for its heat, not to produce steam. In a heat exchanger, the water's heat transfers to a second fluid, which flashes to vapor and drives the turbine. *Source: Geothermal Education Office*

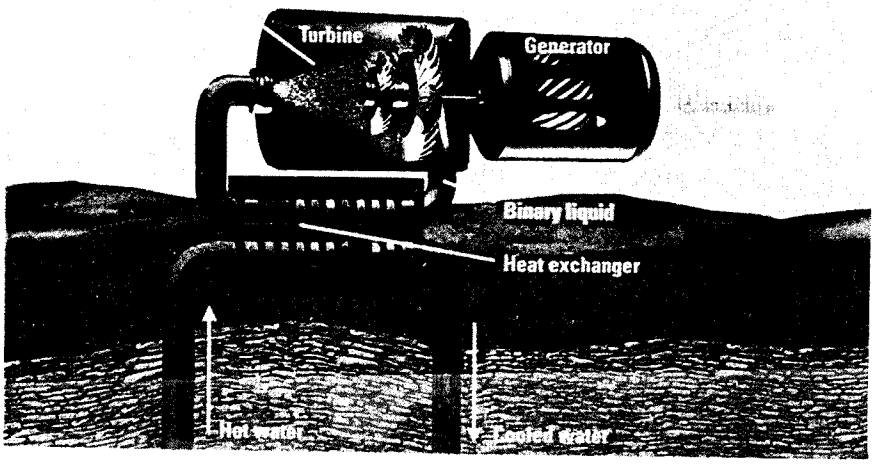


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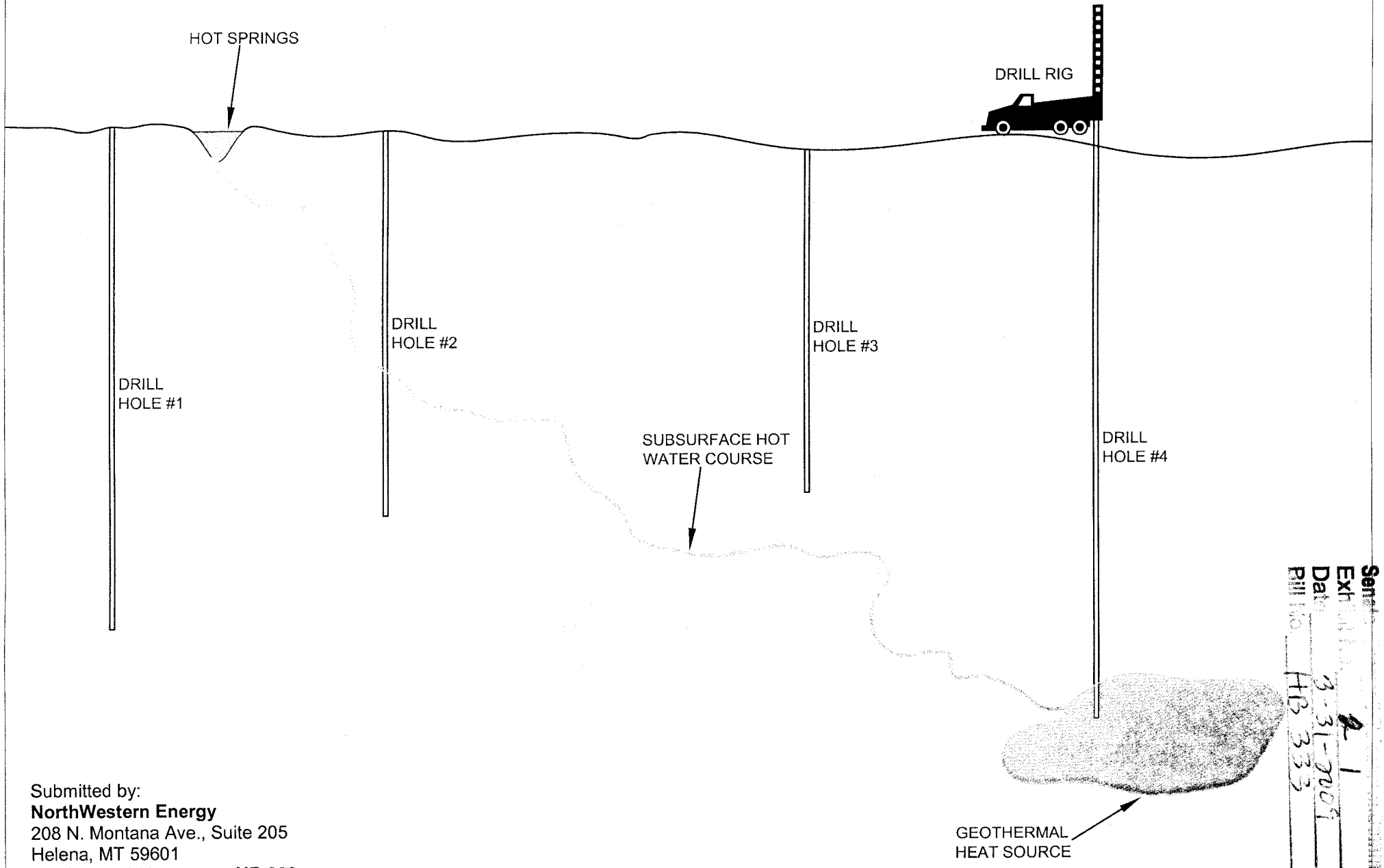
EXHIBIT #1

Investigating a Potential Geothermal Resource
Section View



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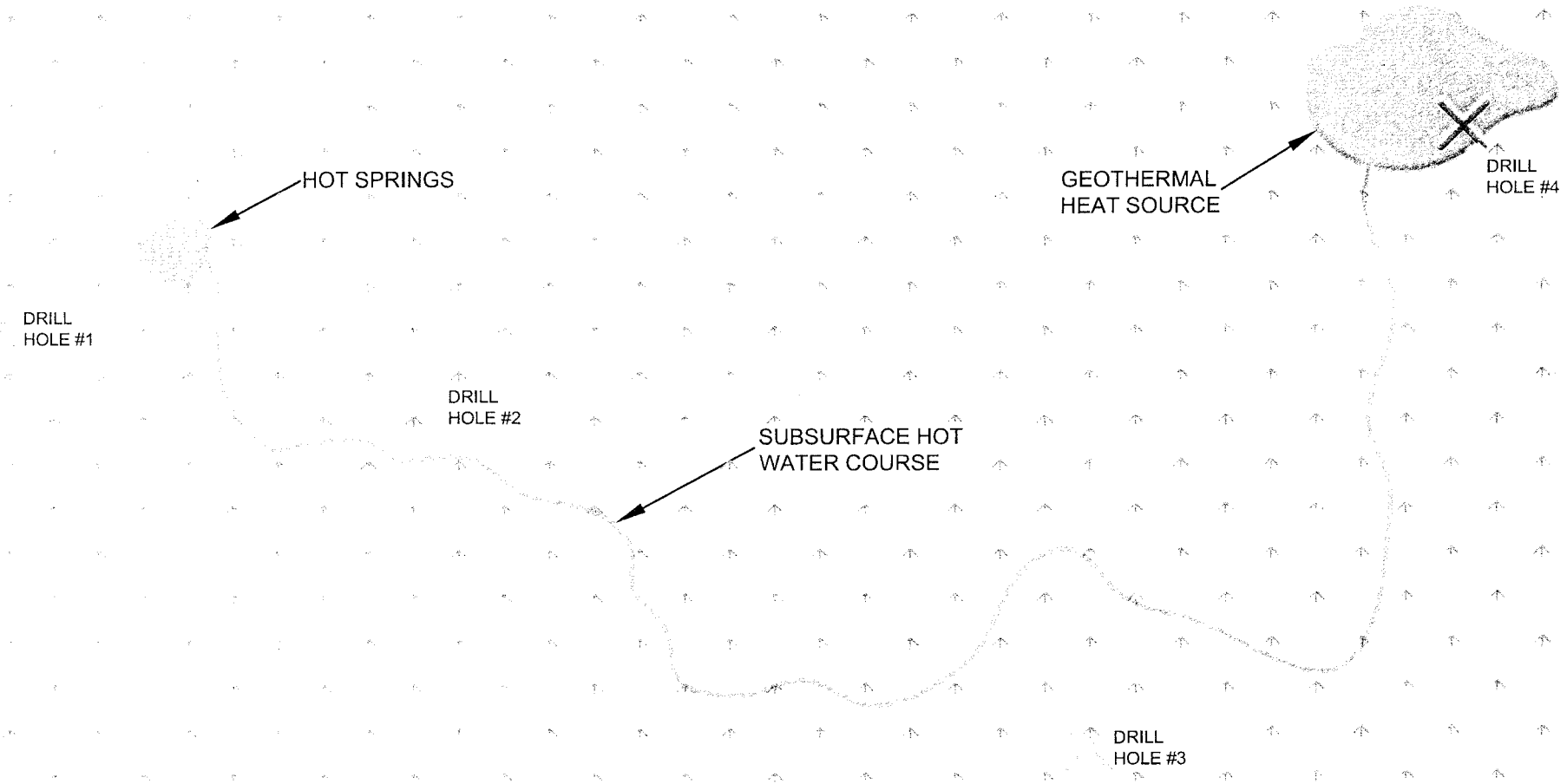
HB 333

Sen. Exh. 1
Date 3-31-2003
Bill No. HB 333

EXHIBIT #2

Investigating a Potential Geothermal Resource
Plan (Aerial) View



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